

WHAT IS CLAIMED IS:

1 1. A method for profiling and solving space mission problems, the method
2 comprising:

3 creating a space mission analysis scenario;

4 setting up a control sequence that simulates a problem to be solved in the space
5 mission;

6 selecting control variables to be checked in solving the problem;

7 identifying parameters to be used in defining a desired results that represents an
8 adequate solution to the problem;

9 establishing profiles for each particular sub-problem of the problem to be solved;

10 and

11 running simulations for each of the established profiles to provide a result

12 representing a solution to the problem to be solved.

1 2. The method of claim 1, wherein the step of running simulations for each of the
2 established profiles comprises:

3 after each profile is run, collecting the solution to that profile, and, in the event
4 that there is a subsequent profile to be run, applying it as the initial starting
5 point for a subsequent profile; and

6 collecting the solution to the last profile and providing it as the result representing
7 a solution to the problem to be solved.

1 3. The method of claim 1, wherein the step of establishing profiles for each
2 particular sub-problem of the problem to be solved comprises:

specifying which of the previously selected control variables should be varied for each particular sub-problem, and

specifying what results should be achieved for each particular sub-problem.

4. A computer system adapted to perform profiling and solving space mission problems for which a space mission analysis scenario has been created, the system comprising:

a processor;

a memory, addressable by the processor, including software instructions adapted to enable the computer system to perform the steps of:

setting up a control sequence that simulates a problem to be solved in the space mission;

selecting control variables to be checked in solving the problem;

identifying parameters to be used in defining a desired results that represents an adequate solution to the problem;

establishing profiles for each particular sub-problem of the problem to be solved;

and

running simulations for each of the established profiles to provide a result representing a solution to the problem to be solved.

5. The computer system of claim 4, wherein the step of running simulations for each of the established profiles comprises:

after each profile is run, collecting the solution to that profile, and, in the event that there is a subsequent profile to be run, applying it as the initial starting point for a subsequent profile; and

6 collecting the solution to the last profile and providing it as the result representing
7 a solution to the problem to be solved.

1 6. The computer system of claim 4, wherein the step of establishing profiles for
2 each particular sub-problem of the problem to be solved comprises:
3 specifying which of the previously selected control variables should be varied for
4 each particular sub-problem, and
5 specifying what results should be achieved for each particular sub-problem.

1 7. A computer program product for enabling a computer to perform profiling and
2 solving space mission problems for which a space mission analysis scenario has been
3 created, the computer program product comprising:
4 software instructions for enabling the computer to perform predetermined
5 operations, and
6 a computer readable medium embodying the software instructions;
7 the predetermined operations including the steps of:
8 setting up a control sequence that simulates a problem to be solved in the space
9 mission;
10 selecting control variables to be checked in solving the problem;
11 identifying parameters to be used in defining a desired results that represents an
12 adequate solution to the problem;
13 establishing profiles for each particular sub-problem of the problem to be solved;
14 and
15 running simulations for each of the established profiles to provide a result
16 representing a solution to the problem to be solved.

1 8. The computer program product of claim 7, wherein the step of running
2 simulations for each of the established profiles comprises:
3 after each profile is run, collecting the solution to that profile, and, in the event
4 that there is a subsequent profile to be run, applying it as the initial starting
5 point for a subsequent profile; and
6 collecting the solution to the last profile and providing it as the result representing
7 a solution to the problem to be solved.

1 9. The computer program product of claim 7, wherein the step of establishing
2 profiles for each particular sub-problem of the problem to be solved comprises:
3 specifying which of the previously selected control variables should be varied for
4 each particular sub-problem, and
5 specifying what results should be achieved for each particular sub-problem.